METHOD OF FORMING GATE INSULATING FILM FOR SEMICONDUCTOR ELEMENT

Patent number: JP2001210834
Publication date: 2001-08-03
Inventor: JON-HAKU BAEKU
Applicant: HYUNDAI ELECTRONICS IND CO LTD
Classification:
- international: H01L29/786; H01L21/336; H01L21/316; H01L21/8234; H01L27/088
- european:
Application number: JP20000368359 20001204
Priority number(s):

Abstract of **JP2001210834**

PROBLEM TO BE SOLVED: To provide a method of forming gate insulating film for semiconductor element by which the thicknesses of gate insulating films can be adjusted in accordance with the characteristics of each element in a semiconductor substrate and, at the same time, the substrate can be prevented from being damaged.

SOLUTION: In this method, a first gate insulating film 204 is formed on a semiconductor substrate 200 and a silicon nitride film 205 and a photoresist film are successively formed on the insulating film 204. Then a photoresist pattern 206 is formed by leaving the photoresist on a low-voltage element forming area 202 in a photolithography step. In addition, a silicon nitride film pattern 205a is formed by using the photoresist pattern 206 as a mask and the pattern 206 is removed. Finally, a second gate insulating film 207 is formed only on a high-voltage element forming area 203 by using the silicon nitride film pattern 205a as an oxidation preventing mask pattern and the pattern 205a is removed.